

# SCOPE NOTES:

- THE FIRE PROTECTION SCOPE OF WORK INCLUDES WET AND DRY SPRINKLER SYSTEMS FOR THE NEW AIR CARGO BUILDING C. THE FACILITY IS DESIGNED TO BE FULLY SPRINKLED PER BUILDING AND FIRE CODE REQUIREMENTS. THE SCOPE INCLUDES FIT-UP FOR A FUNCTIONAL GENERAL WAREHOUSE WITH COMMODITY AND RACK-STORAGE HEIGHT LIMITS AND ASSOCIATED SHELL OFFICE AREAS. ADDITIONAL OFFICE SPACE FOR THE DOA RAMP OFFICE IS DESIGNED TO BE FIT-OUT AS REQUIRED BY THE END-USER.
- THE MAIN OPERATIONS AREA OF THE FACILITY IS AN APPROXIMATELY 100,000 FT2WAREHOUSE WITH A 19,800 FT2 MEZZANINE, A TWO-STORY ATTACHED 5,900 FT2 OFFICE AND RECEPTION STRUCTURE, AND

A TWO-STORY-ATTACHED 2,400 FT2 RAMP OPERATIONS OFFICE.

THAT COULD ALLOW A MAXIMUM STORAGE HEIGHT OF 35 FEET.

- 3. THIS FACILITY IS SIMILAR IN SIZE, LAYOUT, AND FUNCTION TO THE EXISTING AIR CARGO BUILDINGS A. B. AND D.
- 4. THE FACILITY IS CURRENTLY EXPECTED TO HAVE A SINGLE TENANT. 5. THE FACILITY IS BEING DESIGNED AND BUILT AS A SPECULATIVE WAREHOUSE WITHOUT A SPECIFIC TENANT

THE WAREHOUSE IS A HIGH-BAY AREA WITH A MAXIMUM CEILING/ROOF HEIGHT OF 42'-8" AND A 1:12 SLOPE

- WAREHOUSE SPRINKLER SYSTEM DESIGN: THE SPRINKLER SYSTEM SHOULD PROVIDE GENERAL STORAGE PROTECTION AND BE DESIGNED TO MAXIMIZE THE DESIGN DENSITY IN THE WAREHOUSE BASED ON THE EXISTING WATER SUPPLY WITHOUT THE AID OF A FIRE PUMP. THE ULTIMATE TENANT MAY NEED TO UPGRADE ONE OR MORE OF THE WAREHOUSE SPRINKLER ZONES BASED ON THE CLASSIFICATION OF THEIR ANTICIPATED COMMODITIES, THE QUANTITY OF THE COMMODITIES, THE STORAGE CONFIGURATION,
- THE MAXIMUM WAREHOUSE CEILING/ROOF HEIGHT, AND THE MAXIMUM STORAGE HEIGHT. WAREHOUSE COMMODITIES: PER NFPA 13-2010, §5.6.1.2 MIXED COMMODITIES, THE PROTECTION OF A FIRE AREA SHALL NOT BE BASED ON THE OVERALL COMMODITY MIX BUT BY THE REQUIREMENTS FOR THE HIGHEST CLASSIFIED COMMODITY AND STORAGE ARRANGEMENT UNLESS CERTAIN REQUIREMENTS THAT LIMIT THE QUANTITY AND DISPERSION OF HIGHER HAZARD COMMODITIES ARE MET AND ENFORCED.
- WAREHOUSE HAZARD CLASSIFICATION: PER NFPA 13-2010, §13.2.1 (5), COMMODITIES STORED TO HEIGHTS OF 12-FT. OR LESS AND PER §13.2.1 (6), GROUP A PLASTICS STORED HEIGHTS OF 5-FT. OR LESS MAY BE PROTECTED AS MISCELLANEOUS STORAGE. SELECTION OF THE EXTRA HAZARD GROUP 1 DESIGN CURVE FROM CHAPTER 13 WILL COVER CLASS I THROUGH CLASS IV COMMODITY CLASSIFICATIONS AND GROUP A PLASTICS WITH NO LIMITATION ON CEILING HEIGHT. THE EXTRA HAZARD GROUP1 DENSITY/AREA CURVE WILL REQUIRE A DESIGN DENSITY OF 0.30 GPM OF WATER OVER A 2500 FT2 FIRE AREA WITH A TOTAL INSIDE/OUTSIDE HOSE STREAM OF 500 GPM. BASED ON THIS CRITERION, THE WATER MAIN WOULD BE REQUIRED TO DELIVER APPROXIMATELY 1,400 GPM. THE SPRINKLER CONTRACTOR MAY PROVIDE A LOOPED OR GRIDDED SYSTEM.
- 10. GENERAL HAZARD CLASSIFICATIONS AND PROTECTION:
- THE LOADING DOCK AREA UNDER THE MEZZANINE WILL BE PROTECTED AS AN ORDINARY HAZARD GROUP 2 CLASSIFICATION PER NFPA 13-2010. THE DESIGN DENSITY/AREA WILL BE 0.20 GPM OF WATER OVER A 1,500
- THE MAIN OFFICE, THE DOA RAMP OFFICE, AND THE MEZZANINE ARE LIGHT HAZARD CLASSIFICATIONS WITH INCIDENTAL ORDINARY HAZARD GROUP 1 STORAGE AREAS. THE DENSITY DESIGN/AREA WILL BE 0.10 GPM OF WATER OVER A 1,500 FT2 AREA. THE ELECTRICAL ROOMS IN THE MAIN OFFICE AND THE RAMP OPERATIONS OFFICE WILL NOT BE PROTECTED BY THE SPRINKLER SYSTEM UNDER THE EXCEPTIONS ALLOWED FOR IN NFPA 13-2010, §8.15.10.3. THE ELEVATOR MACHINE ROOMS IN THE MAIN OFFICE AND THE RAMP OPERATIONS OFFICE WILL BE PROTECTED BY THE SPRINKLER SYSTEM PER NFPA 13-2010, §8.15.5. AN INLINE WATER FLOW SWITCH WILL BE INSTALLED TO DE-ENERGIZE THE ELEVATOR EQUIPMENT UPON ACTIVATION OF THE SPRINKLER IN THE ROOM. SIDEWALL SPRAY SPRINKLERS WILL BE INSTALLED AT THE BOTTOM OF EACH ELEVATOR HOISTWAY.
- 11. SPRINKLER ZONES: THE AIR CARGO FACILITY IS DIVIDED INTO FIVE SPRINKLER ZONES SIMILAR TO THE EXISTING AIR CARGO FACILITIES. THE ZONE SIZES MEET THE REQUIREMENTS OF NFPA 13-2010. ZONE #1 WILL BE A WET SPRINKLER SYSTEM THAT WILL PROVIDE PROTECTION TO THE MAIN OFFICE AND THE MEZZANINE AREAS. THE SPRINKLER PIPING WILL BE ARRANGED FOR A TREE SYSTEM. THE WET ALARM CHECK VALVE WILL BE LOCATED IN THE MAIN OFFICE MECHANICAL SPACE. ZONE #1 WILL ALSO SERVE THE AREA BENEATH THE MEZZANINE AT THE LOADING DOCK AND A SPRINKLER LINE FROM ZONE #1 WILL BE EXTENDED DOWN THE CATWALK TO THE DOA RAMP OFFICE FOR PROTECTION OF THIS SPACE AS ZONE #1A. A FLOW SWITCH WILL BE INSTALLED IN THIS LINE AT THE DOA RAMP OFFICE AND CONNECTED TO THE FIRE ALARM PANEL. THE WAREHOUSE AREA WILL BE DIVIDED INTO THREE WET ZONES. THE MAXIMUM AREA OF PROTECTION PER ZONE WILL BE LESS THAN 40,000 SQ. FT. BASED ON THE HAZARD CLASSIFICATION. ZONE #2 AND ZONE #4 WILL COVER 4 BAY WIDTHS. ZONE #3 WILL COVER 5 BAY WIDTHS. THE THREE ZONES WILL COVER THE WAREHOUSE CEILING. THE SPRINKLER PIPING MAY BE ARRANGED AS A TREE OR GRID SYSTEM. THE WET ALARM CHECK
- VALVES WILL BE LOCATED IN THE OFFICE MECHANICAL ROOM. ZONE #5 WILL BE A DRY SPRINKLER SYSTEM THAT WILL PROVIDE PROTECTION TO THE LOADING DOCK OVERHANG. THE SPRINKLER PIPING WILL BE ARRANGED FOR A TREE SYSTEM. THE DRY VALVE WILL BE LOCATED IN THE MAIN OFFICE MECHANICAL SPACE. THE DESIGN AREA WILL BE INCREASED 30% TO 1,950 FT2 PER NFPA 13-2010.
- 12. FIRE PUMP: BASED ON THE APRIL 25, 2013 WATER FLOW TEST DATA, A FIRE PUMP IS NOT ANTICIPATED FOR THE CURRENT DESIGN. AN AREA HAS BEEN SET ASIDE IN THE MECHANICAL ROOM FOR A FUTURE FIRE PUMP AND CONTROLLER.

## FIRE PROTECTION CRITERIA:

OFFICE SPACE UNLESS NOTED OTHERWISE (WET PIPE SPRINKLER SYSTEM) OCCUPANCY CLASSIFICATION: \_ LIGHT HAZARD DESIGN DENSITY: 0.10 GPM/SQ. FT. HYDRAULIC REMOTE AREA (WET): 1,500 SQ. FT. SPRINKLER K: 5.6 MAXIMUM COVERAGE/SPRINKLER: 225 SQ. FT. **OUTSIDE HOSE STREAM ALLOWANCE:** 100 GPM

EQUIPMENT ROOMS, BUILDING MAINTENANCE/REPAIR AREAS, WORKROOMS, SHELL SPACE ORDINARY HAZARD, GROUP I OCCUPANCY CLASSIFICATION:

DESIGN DENSITY: 0.15 GPM/SQ. FT. HYDRAULIC REMOTE AREA (WET): 1,500 SQ. FT. SPRINKLER K: 5.6 130 SQ. FT. MAXIMUM COVERAGE/SPRINKLER: **OUTSIDE HOSE STREAM ALLOWANCE:** 250 GPM

STORAGE AREAS, RECEIVING AREAS, MECHANICAL ROOMS, UTILITY AREAS, STOCK ROOMS, RECORDS AREAS, FILE ROOMS, HOUSEKEEPING, RECYCLABLE & HAZARDOUS WASTE, MAIL ROOM, LOADING DOCK AREA UNDER MEZZANINE, & ALL AREAS REQUIRED BY NFPA 13.

OCCUPANCY CLASSIFICATION: \_ ORDINARY HAZARD, GROUP 2 0.20 GPM/SQ. FT. **DESIGN DENSITY:** HYDRAULIC REMOTE AREA (WET): 1,500 SQ. FT. SPRINKLER K: 5.6 OR 8.0 MAXIMUM COVERAGE/SPRINKLER: 130 SQ. FT. OUTSIDE HOSE STREAM ALLOWANCE: 250 GPM

EXTERIOR LOADING DOCK OVERHANG (DRY PIPE SPRINKLER SYSTEM)

OCCUPANCY CLASSIFICATION: \_ ORDINARY HAZARD, GROUP 1 DESIGN DENSITY: 0.20 GPM/SQ. FT. HYDRAULIC REMOTE AREA (DRY): 1,950 SQ. FT. 5.6 OR 8.0 SPRINKLER K: . MAXIMUM COVERAGE/SPRINKLER: 130 SQ. FT.

WAREHOUSE OCCUPANCY CLASSIFICATION: \_

EXTRA HAZARD, GROUP 1 0.30 GPM/SQ. FT DESIGN DENSITY: HYDRAULIC REMOTE AREA (WET): 2,500 SQ. FT. SPRINKLER K: MAXIMUM COVERAGE/SPRINKLER: 100 SQ. FT. OUTSIDE HOSE STREAM ALLOWANCE: 500 GPM

#### **DESIGN CRITERIA:**

THE FOLLOWING PUBLICATIONS SHALL BE USED AS A REFERENCE FOR DESIGN OF THE FIRE SUPPRESSION SYSTEM ON THIS PROJECT.

- NFPA 13, INSTALLATION OF SPRINKLER SYSTEMS, 2002 EDITION. NFPA 14, STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEMS, 2003 EDITION.
- NFPA 72. NATIONAL FIRE ALARM CODE, 2002 EDITION.
- NFPA 1, FIRE PREVENTION CODE, 2003 EDITION. 5. INTERNATIONAL BUILDING CODE, 2003 EDITION.

FLOW TEST INFORMATION: STATIC: 78 PSI RESIDUAL: 70 PSI FLOW: 1,190 GPM

OUTSIDE HOSE STREAM ALLOWANCE:

DATE: 4-25-2013, 10:30 AM LOCATION: HYDRANTS ALONG SOUTH CARGO DRIVE EAST OF **BUILDING SITE** 

. 250 GPM

### **GENERAL NOTES:**

- FLOW TEST INFORMATION IS FOR REFERENCE ONLY. CONTRACTOR SHALL PERFORM FLOW TEST ON EXISTING FIRE MAIN. CONTRACTOR SHALL RECORD THE STATIC PRESSURE AT THE GAUGE HYDRANT FOR A MINUMUM OF 24-HOURS AT A MINIMUM 2-MINUTE INTERVAL. THE FLOW TEST RESULTS SHALL BE ADJUSTED FOR THE LOWEST STATIC PRESSURE THAT IS RECORED OVER A 5-MINUTE PERIOD. CONTRACTOR SHALL PROVIDE HYDRAULIC CALCULATIONS BASED ON FLOW TEST RESULTS.
- CONTRACTOR SHALL SLOPE ALL PIPING TO THE FIRE ENTRANCE RISER AS REQUIRED TO INSURE PROPER DRAINAGE. ADDITIONAL AUXILIARY DRAINS SHALL BE INSTALLED WHERE REQUIRED.
- COORDINATE PIPE ROUTING WITH DUCT ROUTING, EQUIPMENT LOCATIONS, ELECTRICAL INSTALLATIONS, AND BUILDING STRUCTURAL MEMBERS. OFFSET PIPING WHERE REQUIRED TO AVOID CONFLICTS. AVOID PENETRATING ANY STRUCTURAL BEAM.
- (4) CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING FIRE PROTECTION SYSTEM DESIGN AND SHOP DRAWINGS. CONTRACTOR SHALL MEET ALL REQUIREMENTS OF THE ABOVE-REFERENCED CODES.
- SPRINKLERED AREAS OF THE BUILDING SHALL BE IN ACCORDANCE WITH FIRE PROTECTION DATA ON THIS SHEET AND THE REQUIREMENTS OF THE CONTRACT SPECIFICATIONS.
- SPRINKLERS SHALL BE CENTERED IN CEILING TILES IN AREAS WITH LAY-IN TILES AND VISUALLY ALIGNED IN AREAS WITH SMOOTH CEILINGS.
- CONTRACTOR SHALL ANTICIPATE THE OFFSETTING OF SPRINKLER PIPING TO AVOID CONFLICTS WITH MECHANICAL AND ELECTRICAL CONDITIONS. PIPING MUST PASS ALL SPECIFIED LEAK INTEGRITY TESTS. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AREA OF WORK THROUGHOUT INSTALLATION AND SHALL REPAIR OR REPLACE ANY DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL PATCH ALL HOLES IN AREAS AFFECTED BY THE CONSTRUCTION.
- ALL PIPE PENETRATIONS OF RATED FLOORS AND WALL MUST MEET UL RATED ASSEMBLIES. ALL PIPE PENETRATIONS THRU FLOORS MUST HAVE SLEEVES. THE SLEEVES SHALL EXTEND A MIN. OF 1" ABOVE
- THE FLOOR AND BE FIRE SEALED AT THE FLOOR. PIPING 8" AND GREATER IN DIAMETER SHALL BE SUPPORTED BY STEEL BEAMS AND JOISTS. PIPING SHALL NOT BE SUPPORTED FROM METAL ROOF DECK. PIPING MAY BE SUPPORTED FROM THE RIB (THICKENED) PORTION OF COMPOSITE DECK AND CONCRETE. PIPING SUPPORTED BY JOISTS SHALL BE WITHIN 6" OF JOIST PANEL POINTS. PIPING 8" DIAMETER AND GREATER AND RUNNING PARALLEL TO JOISTS/BEAMS SHALL BE SUPPORTED BY AT LEAST TWO (2) JOISTS/BEAMS. PIPES 8" DIAMETER AND

GREATER SUPPORTED BY JOISTS SHALL HAVE SUPPORT POINTS AT 5 FEET O.C. MAX IN EACH DIRECTION.

#### DRAWING LIST

- FP 0.1.1 FIRE PROTECTION DRAWING LIST, DESIGN CRITERIA, AND GENERAL NOTES
- FP 2.1.1 FIRE PROTECTION AND FIRE ENTRANCE OPERATIONS

SHEET NUMBERING SYSTEM

SHEET TYPE DESIGNATOR

DESCRIPTION

GENERAL

SECTOR INDICATOR (OPTIONAL)

—— SHEET TYPE DESIGNATOR

FIRE PROTECTION ZONES PLAN

SCHEMATIC DIAGRAMS

DETAILS OR DIAGRAM

EQUIPMENT SCHEDULES

- DISCIPLINE DESIGNATOR

----- SEQUENCE NUMBER / FLOOR NUMBER

FIRE PROTECTION ZONES AND FIRE ENTRANCE PLAN

**FP 1.1.1** 

\_\_\_\_\_

- LEVEL FLOOR PLAN
- FP 2.1.2 FIRE PROTECTION OFFICE LEVEL FLOOR PLAN



CITY OF ATLANTA, GEORGIA Hartsfield-Jackson



HEERY INTERNATIONAL, INC. 999 PEACHTREE STREET, NE ATLANTA, GA 30309 PHONE: 404.419.9190

FAX: 404 946 2017 STEVENS & WILKINSON INC. 100 PEACHTREE STREET NW, SUITE 2500 ATLANTA, GA 30303 PHONE: 404.522.8888 FAX: 404.521.6204

SOUTHEASTERN ENGINEERING, INC. (SEI)

MATRIX 3D

44 BROAD STREET

ATLANTA, GA 30303

PHONE:404.522.3801

FAX: 404.522.3823

2470 SANDY PLAINS ROAD MARIETTA, GA 30066 PHONE: 770.321.3936 FAX: 770.321.3935

FIRE PROT	ECTION LEGEND
	SPRINKLER PIPING
<b>■</b> FHV	FIRE HOSE VALVE CABINET
<b>A</b>	WET PIPE SYSTEM RISER
$\bigcirc$	PRE-ACTION SYSTEM RISER
•	DRY PIPE SYSTEM RISER
	CAP ON END OF PIPING
	PIPING DROP IN DIRECTION OF FLOW
<b>_</b>	PIPING RISE IN DIRECTION OF FLOW
	CENTERLINE
	GALLONS PER MINUTE
	DUCTILE IRON
	OUTSIDE SCREW & YOKE
0-12-	FIRE HOSE VALVE
0-FXX	FLOOR CONTROL VALVE
ESFR	
(#)	HYDRAULIC CALCULATION NODE
#	HYDRAULIC CALCULATION PIPE
•	UPRIGHT SPRINKLER
0	PENDENT SPRINKLER
$\bowtie$	SHUT OFF VALVE
<b>*</b>	INDICATOR VALVE
	w/ TAMPER SWITCH
	<del> </del>
17	CHECK VALVE WITH FLOW DIRECTION
*	SUPERVISED VALVE
	FIRE ZONE BORDER
	CONNECT TO EXISTING
o∏₁*	WALL MOUNTED INDICTOR VALVE

W/ TAMPER SWITCH

NO. DATE BY REVISION AIR CARGO BUILDING C

FIRE PROTECTION DRAWING LIST, DESIGN CRITERIA AND GENERAL NOTES

WBS NUMBER:	DRAWN BY:	1
D.07.55.009	K. MILNER	
FC NUMBER:	DESIGNED BY:	] 2
FC-6006007929-A	J. CRAYTOR	Ę
A/E PROJECT NUMBER.	CHECKED BY:	2
HII-0730621	J. CRAYTOR	ואטודטו ומדטואסט מכ
	APPROVED BY:	
	J. CRAYTOR	
	DATE:	1 2

11/25/2014

AS NOTED

FP 0.1.1

SHEET NO:



WATER FIRE MAIN ENTRANCE SCHEMATIC SCALE: NONE

8

(14)

**KEYED NOTES** 

 $\sim$  2½" INLETS AND 6" BACK OUTLET

4 6" CHECK VALVE IN FDC LINE

| > ISOLATION VALVE WITH TAMPER SWITCH

3 72" FLANGED SPACE RESERVED FOR FUTURE FIRE PUMP

⟨ 5 ⟩ 8" PIV BY CIVIL; SEE CIVIL DRAWING C4.2.1

6 NEW 8" TAP TO EXISTING FIRE LINE

SEE CIVIL DRAWING C4.2.1

( 8 ) EXISTING BACKFLOW PREVENTER IN PIT

(9) EXISTING 12 CEMENT LINED CAST IRON

LIMIT OF SPRINKLER CONTRACTOR WORK 5' OUTSIDE BUILDING WALL

14 EXISTING FIRE DEPARTMENT CONNECTION

(13) OS&Y GATE VALVE OR UL LISTED BUTTERFLY VALVE w/ TAMPER SWITCH

12 LIMIT OF CIVIL CONTRACTOR WORK

15 PIPE MOUNTED AIR COMPRESSOR

UNDERGROUND PIPE

10 EXISTING SITE WATER LINE

2 > 4-WAY VERTICAL FIRE DEPARTMENT CONNECTION WITH

 $\langle 7 \rangle$  EXISTING 2½"X 2½"X 6" FIRE DEPARTMENT CONNECTION;



